COOPERATIVE INSTITUTE FOR RESEARCH IN ENVIRONMENTAL SCIENCES
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The Cooperative Institute for Research in Environmental Sciences (CIRES) was established in 1967 at the University of Colorado. CIRES serves as a mechanism to promote synergism between scientists at nine University departments and those at NOAA Research, NOAA Satellites and Information Service, and the National Weather Service.

CIRES carries out research in six theme areas**: (1) Advanced Modeling and Observing Systems** - Optimize modeling and observing systems for disciplines such as atmospheric chemistry, physical atmospheric and oceanic processes, cryospheric processes, space weather, nonlinear systems applications, data centers, and data management; (**2) Climate System Variability** – Work to gain an understanding of and potentially predict climate change; **(3) Geodynamics** – Characterize and identify the internal processes of our planet, including processes of the core mantle boundary, convection within the earth's mantle, and how the convection affects the surface of the planet; **(4) Integrating Activities** – Engage in a wide range of integrating activities in research, education, and outreach that encompass each of the institute's research themes and contribute to the overall mission of CIRES, NOAA, and the University of Colorado; **(5) Planetary Metabolism** – Study the complex web of biochemical and ecological processes and their interaction with the lithosphere, atmosphere, and hydrosphere; **(6) Regional Processes** - Research the mechanisms of atmospheric transport on climate and air quality, chemical transformation of products of biomass burning, air/sea gas transfer, and ozone pollution with a regional focus to address particular confluences of geography, demographics, weather and climate regimes.

Annually, CIRES scientists publish over 425 scientific publications, of which nearly 70% appear in peer-reviewed publications. This research is helping decision makers seeking to resolve complex problems by providing scientific insights to help shape informed policy. Examples of research focused upon societal needs include assessing the health of Earth's ozone layer, evaluating the potential for climate change, predicting the onset of El Niños, documenting the thinning of polar ice, monitoring the quality of our air and water, helping to respond to drought and wildfire, developing microbial agents for degrading environmental pollutants, improving earthquake predictions, and providing decision makers with information for more effective risk assessments.

CIRES research activities assist NOAA in all four of its Mission Goals: 1) Protect, restore, and manage the use of coastal and ocean resources through ecosystem based management; 2) Understand climate variability and change to enhance society's ability to plan and respond; 3) Serve society's needs for weather and water information; and 4) Support the Nation's commerce with information for safe, efficient and environmentally sound transportation.